ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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January 10, 2005

U.S. Army Corps of Engineers
Attn: CELRL-PM-M-E (Ms. Melody Thompson)
P.O. Box 59
Louisville, Kentucky 40201-0059

Re: Draft Comprehensive Remedial Investigation Report

0434670016 – DuPage Co.
Naperville/Fmr. Nike C-70
Superfund/Technical Reports

Dear Ms. Thompson:

The Illinois Environmental Protection Agency (Illinois EPA) received the *Draft Comprehensive Remedial Investigation Report* on October 12, 2004. Montgomery Watson Harza Americas Inc. (MWH) prepared this four-volume set of documents on behalf of the U.S. Army Corps of Engineers – Louisville District (USACE). The Remedial Investigation/Baseline Risk Assessment (RI/BRA) focuses exclusively on investigations done on the Launch Area portion of the former Nike C-70 Missile Battery. USACE has conducted no environmental investigations of the Control Area of the former Nike C-70 Missile Battery to date. Illinois EPA provides the following comments on the Launch Area RI/BRA:

1. General: Since additional groundwater investigation north of the former Launch Area has not been completed, either the additional information will need to be incorporated into the revised RI/BRA or an addendum to the RI/BRA will need to be prepared and submitted for review and comment. The latest quarterly groundwater monitoring results (December 2004) need to be incorporated into the next version of the RI/BRA. Final approval of the RI/BRA cannot be granted until the results of all RI investigative activities have been submitted.

2. Section 2.3.4, page 14: No mention of the former Nike C-70 Control Area was found in the discussion of the BP-Amoco Campus. Although previous evaluation of the Control Area by USACE, presented in the 1986 Inventory Project Report (INPR), did not indicate the potential for contamination at the Control Area, Trichloroethene (TCE) may well have been used there by DoD and the former Control Area is located immediately

upgradient of the northernmost TCE groundwater plume. Please provide a synopsis of the INPR in this paragraph and include the 1986 INPR in one of the appendices of the RI.

During a recent field visit to the BP-Amoco Campus to witness MWH's well installation effort for the Nike C-70 Launch Area, BP's environmental coordinator indicated that an underground storage tank (UST) containing TCE or spent TCE had been located on-site. Please verify the location of this UST and include brief discussion of it here.

3. Section 2.5, page 20: The correct State of Illinois chemical-specific Applicable or Relevant and Appropriate Requirements (ARARs) for groundwater are found in Title 35 Illinois Administrative Code (IAC) Part 620.410, Illinois' Groundwater Quality Standards. Class I (potable) 35 IAC 620 standards are equivalent to the federal National Primary Drinking Water Regulation (NPDWR) Maximum Contaminant Levels (MCLs), but the state regulation includes other requirements (e.g., corrective action) that make it more stringent than the federal drinking water requirements.

   The Tiered Approach to Corrective Action Objectives, (TACO, 35 IAC 742) is a To Be Considered (TBC) regulation pursuant to definitions in CERCLA and the NCP, but does contain objectives for a number of groundwater contaminants not included in 35 IAC 620 or the NPDWR. Please delete reference to the TACO Groundwater Remediation Objectives in this section as the primary source for Illinois groundwater standards and replace with 35 IAC 620. Comparison to TACO Groundwater Remediation Objectives for contaminants not addressed by 35 IAC 620 or the MCLs is expected.

4. Section 4.2.2, page 52: After reviewing the boring logs included in Appendix C, the thinnest Shallow Aquifer thickness appears to have been encountered in MW45, not MW37. The Shallow Aquifer in MW45 has a thickness of about 6 feet, while MW37 is described as having a thickness of 21 feet here (boring log not found in Appendix C). Please review the boring logs and correct accordingly.

5. Section 4.2.2, page 53: Reference to the hydrographs in Appendix H is made here. The y-axis on each of the four Groundwater Elevation Hydrographs in Appendix H appears to be mislabeled as "Concentration." Please correct the title of each y-axis to be "Groundwater Elevation." The next revision of the RI should include groundwater elevation measurements from the last quarterly sampling event.

6. Section 4.2.4, page 58: The groundwater levels measured in MW31, located along Mill Street at the western edge of Nike Park, were consistently 4 to 10 feet lower than other monitoring wells finished in the Upper Intermediate Aquifer. The text states, "it appears an error in the elevation survey exists for this well." MW31 was co-located with MW30 and MW32. Confirming that an elevation survey error was made should be relatively simple. However, boring logs from MW30 and MW32, along with the rest of the BAT

wells and the earlier Maxim wells, were not included in this RI/BRA. Please confirm the error. Include reference to the document(s) in the Administrative Record in which others may review the remaining boring logs.

7. Section 5.2, pages 67-68, Tables 5-2 and 5-3: Analytical soil gas results for Chloroform and TCE, the two groundwater Contaminants of Potential Concern (COPCs), indicate that the laboratory Reporting Limits (RLs) for these compounds exceeded their respective screening values (USEPA Region IX Target Shallow Gas Concentrations). The RLs for Chloroform ranged from 0.65 to 2.7 ppbv compared to the screening value of 0.22 ppbv. The RLs for TCE ranged from 0.65 to 2.7 ppbv versus a screening value of 0.04 ppbv. When questioned by telephone, Air Toxics LTD of Folsom, California, stated that the two sets of results presented in ppbv and ug/m^3 (Appendix N1) are RLs, not Method Detection Limits (MDLs). Air Toxics stated that they should have this information and can present the results based upon the MDLs. Illinois EPA requests that USACE present the results of the TCE and Chloroform soil gas analyses with the MDLs in the RI. Results found between the MDLs and RLs should be 'J' flagged.

8. Section 5.6, page 72: Benzo(a)pyrene (BaP) was the only Polycyclic Aromatic Hydrocarbon (PAH) detected above the screening criteria. BaP was found above the screening criteria in only one soil boring, SB113/127, at depths of 6 feet (120 ppb) and 13 feet (150 ppb) using SW-846 Method 8270C (Table 5-7). In Table 5-6, PAH results using SW-846 Method 8310 indicate BaP concentrations below the screening criteria. If 8310 is supposed to be the more sensitive method, then why was BaP found by 8270C and not by 8310? Here in the text, please provide an interpretation of the reason(s) for the differing BaP concentrations using the two analytical methods.

9. Section 5.7, page 74: Although chloroform may not be a COPC listed in the 1986 *Investigation of Former Nike Missile Sites for Potential Toxic and Hazardous Waste Contamination* (Law Engineering Testing Company), the solvent carbon tetrachloride is listed as a COPC. Chloroform is an intermediate breakdown product of carbon tetrachloride during biodegradation. What is the likelihood that the chloroform observed is related to the biodegradation of carbon tetrachloride from past military activities versus the chloroform somehow being associated with the municipal water supply as suggested here?

10. Section 5.7.2, pages 76-77: Monitoring a larger extent of the lower zone of the Shallow Aquifer should be an element of remedial alternatives in the Feasibility Study and may become necessary as part of pre-design activities and/or remedial action monitoring, especially if in-situ treatment is the recommended remedial alternative.

11. Section 6.3, pages 81-82: The site-specific discussion of fate and transport should attempt to explain why the TCE plumes in the Shallow Aquifer appear stable some 40 to

50 years since military activities took place at Nike C-70. The horizontal groundwater flow velocity in the Shallow Aquifer is estimated at 0.63 feet/day (229 feet/year) in Section 4.2.2. Biodegradation indicators are not present (dissolved oxygen is too high (> 1 mg/L) and no daughter products have been found). The text notes high Total Organic Carbon (TOC) in the saturated soils at Nike C-70. So high in fact that TOC data quality is questioned. Assuming that the TOC data quality is good, or that the TOC values are not that far off, does this help explain why the TCE plumes have remained in relative equilibrium since TCE groundwater monitoring began. Please include a discussion here in Section 6.3 of what natural attenuating factors may be retarding the spread of three distinct TCE plumes in the Upper Aquifer.

12. Section 6.5, pages 82-83: Please add the following language to the end of the last full sentence on page 82, "within the former Nike C-70 line of site easement." Information has not been submitted to date contradicting the possibility that the Northern Plume resulted from DOD activities between the Launch and Control Areas, in the line of site easement, and/or in the Control Area itself. Rather than to dismiss this possibility without justification, strike the second to last sentence in the paragraph that straddles pages 82 and 83 and the first word in the last sentence in the same paragraph; "Therefore it is unlikely that the Northern Plume is associated with DOD activities at the former Launch Area. Rather,"

13. Section 7.1, page 86: The text states that BaP was not detected in any of the surface soil samples or other subsurface soils with similar geologic characteristics. However, no surface/near surface soil samples appear to have been collected from SB113/127 (the boring with the elevated BaP results by Method 8270C) or the other borings in the area. Even higher concentrations of BaP could exist above a depth of 6 feet at the SB113/127 location. Illinois EPA recommends taking two samples, one surface soil sample and one soil sample from a depth of 3-4 feet at the SB113 location, to close this apparent data gap.

14. Section 7.1, pages 86-87: The Electric Power Research Institute (EPRI) PAH background study values do not just represent "natural background levels." The EPRI background study targeted sites within a major metropolitan area that have been subjected to industrial and transportation related fossil fuel combustion fallout for at least 100 years. In the last paragraph beginning on page 86, eliminate all references to the EPRI results as 'natural' and replace that word with 'anthropogenic' or 'anthropogenic and naturally occurring'. No site-specific background investigation was conducted at Nike C-70. But, as is stated here, BaP was not detected in any of the surface soil samples or other subsurface soils with similar characteristics to those found in SB113/127. That would suggest that the BaP detections in SB113/127 are anthropogenic and not naturally occurring. Whether or not the PAH levels observed in one soil boring at Nike C-70 are

indicative of anthropogenic and naturally occurring background for this area of Naperville, much less the background values included in the EPRI study, is not known.

15. Section 7.1, page 87: Carcinogenic PAHs were not selected as COPCs in soil based upon what was termed as the "anomalous" 8270C data and the EPRI study. Illinois EPA can concur with this conclusion as long as the surface and near surface soil samples requested in comment 13 above indicate that the 8270C BaP data indeed was anomalous at the SB113/127 location.

16. Section 7.2.3, page 89: Illinois EPA agrees that for now and the foreseeable future, the exposure pathways associated with domestic use of groundwater are not complete at the former Nike C-70. However, one of the NCP's principles is to restore groundwater to its beneficial use wherever practicable (40 CFR 300.430(a)(1)(ii)(F)). Restoring groundwater to its beneficial use is also a tenant of Illinois' Groundwater Protection Act (415 ILCS 55) and its implementing regulations, Illinois' Groundwater Quality Standards (35 IAC 620).

    CERCLA contains a statutory mandate for Federal Facilities not on the NPL to comply with state laws concerning removal or remedial action (Section 120(a)(4)). Compliance with State Applicable or Relevant and Appropriate Requirements (ARARs) for groundwater is a threshold remedy selection criterion that must be met by any remedial action taken at Nike C-70 (40 CFR 300.430(f)(1)(i)(A)). Therefore, although domestic use of groundwater exposure pathways are not complete pathways at this time, the Class I Groundwater Quality Standards and corrective action provisions of 35 IAC 620 are applicable State of Illinois regulations that must be complied with in order to return the TCE contaminated groundwater to its beneficial use. Corrective action must be undertaken to the extent practical under site-specific conditions. Illinois EPA expects to evaluate the practicability of various remedial alternatives for the TCE contaminated groundwater put forward in the FS.

17. Section 7.5.3, pages 97-98: As was agreed during our August 30, 2004 conference call, carcinogenic risks calculated for adult residents and commercial workers exposed to indoor air using USEPA's provisional toxicity factors for TCE are presented here in the uncertainty section for risk-management purposes. What was the risk calculated for child residents exposed to indoor air? No backup calculations for the risk values based upon the provisional toxicity data were found in Appendix J with the other risk assessment calculations. Please present the risk calculations using the provisional toxicity factors and supporting input tables in Appendix J. Reference the location of this information here in Section 7.5.3.

18. Table 7-4: Please provide justification for the assumed groundwater exposure frequency (5 days/year) and the assumed exposure time (1 hour/day) for the construction worker.

19. Figure 4-5 and Appendix C: Cross-section D-D' includes monitoring well MW45. This is the southernmost well installed for the Launch Area. The cross-section indicates that the terminus of MW45 is in the Shallow Aquifer. However, the boring log for MW45 shows that 3 feet of silty clay was encountered at the bottom of the 21-foot deep boring. Are these 3 feet of silty clay part of the Intermediate Confining Unit? Please confirm. Regardless, the cross-section should indicate that silty clay was encountered at the bottom of MW45.

Illinois EPA looks forward to submission of the revised Comprehensive RI/BRA Report incorporating the results of all phases of work. Should you have any questions regarding this letter, do not hesitate to contact me at (217) 785-7728 or by e-mail at Paul.Lake@epa.state.il.us.

Sincerely,

Paul T. Lake, Remedial Project Manager
Federal Sites Remediation Section
Bureau of Land

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CF: Douglas Buchanan, USACE-LD
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